The human skeleton

Bones make up the human **skeleto**

Look at Figure 2.1.2a and answer these questions.

1. State the scientific name for the:

   a) skull cranium

   b) collar bone clavicle

   c) shoulder blade scapula

   d) funny bone. humerus

2. Suggest why you cannot count 206 bones on the diagram of the skeleton in Figure 2.1.2a. Some of the bones are too small and other are hidden like the ear bones

3. Explain why the name 'vertebrates' is so suitable for describing animals that have a backbone.

   ↓

   Because the backbone is made up of bones called vertebrae.

Questions page 11.

check Q 4, 5, 6 first →

7. For each of the examples below, describe how the bone shape or structure is well adapted for its function in the body:

a) femur (thigh bone) long and wide; gives strength to support the body weight.

b) bones of the hand many small bones with joints allows the hand to bend.

c) ribs. curved, to protect the lungs.

8. Vertebrae are described as small and irregular bones.

a) Explain what is meant by an 'irregular' bone.

not symmetrical

b) Suggest why all vertebrae are small and the same shape.

This allows vertebrae to fit together and still move

Questions page 11

4. a) Name the most common hard mineral in bones.

Calcium

b) Describe a food rich in this mineral.

milk, cheese, dairy products

5. Suggest why it is important that bones can bend slightly. To prevent them from breaking easily.

6. The spongy layer makes movement easier than if this layer was solid. Can you explain this?

It makes bones lighter than if they were solid

Questions pages 12-13

1- Describe the 4 main roles of the skeleton.

Support the body
Protect organs
Allow movement
Produce blood cells

2- Explain which organ each part of the skeleton protects:

a. ribs heart and lungs

b. cranium brain

3- describe 3 parts of the skeleton where joints are important.

knee - elbow - shoulder

4- Describe the role of red blood cells.

carrying oxygen

5- Explain what is meant by a transplant.

Transfer a living tissue from one person to another

6- A femur, 0.35m in length, is found during a police investigation. Estimate the height of the victim. (Remember the units)

Height = (0.35 x 2.6) + 65 = 65.91 cm

7- Estimate the arm span of the same victim. 69.91cm

8- Suggest why the calculation is not always accurate in people between 12 and 18 years of age.

Because at this age people grow quickly

Questions pages 14 and 15

1- Describe the roles of tendons and ligaments.

ligaments: attach bone to bone

tendons: attach muscles to bones.

2- Explain why is it important that tendons are stretchy.

To allow muscles to contract

3- Sportspeople often damage ligaments. Suggest how this can happen.

changing direction quickly - Landing hard

4- List the four types of joint in order, starting from the type allowing least movement.

1- fixed joints 2- pivot joints 3- hinge joints -
4- ball and socket joints.

5- Suggest which type of joint is found in the:

a) Hip ball and socket

b) Knee hinge